

IN THE CLAIMS:

The following listing reflects the current version of all claims, and replaces all earlier versions and listings:

Claims 1-16. (Canceled)

Claim 17. (New) A photoelectric converting apparatus, on an insulating supporting substrate, comprising:

a pixel comprising a photoelectric converting element, a resetting transistor wherein one of a source and a drain is connected to said photoelectric converting element, and the other of the source and the drain is connected to a resetting power source, a readout transistor wherein a gate is connected to said photoelectric converting element and wherein one of a source and a drain is connected to a readout power source, and a selecting transistor connected to the other of the source and the drain of said readout transistor;

a signal line connected to said pixel; and

constant current source connected to said signal line and,

readout means connected to said signal line, wherein said constant current source is provided at a position on said signal line spaced from said readout means.

Claim 18. (New) A photoelectric converting apparatus according to claim 17, wherein said readout means includes an amplifier connected to said signal line and an analog multiplexer connected to said amplifier.

Claim 19. (New) A photoelectric converting apparatus according to claim 18, wherein said analog multiplexer is formed by a thin film transistor constituted of amorphous silicon or polysilicon on the same insulating substrate as that for said readout transistor.

Claim 20. (New) A photoelectric converting apparatus according to claim 17 or 19, wherein said constant current source includes a constant current source transistor of which a gate is connected to a power supply for said constant current source.

Claim 21. (New) A photoelectric converting apparatus according to claim 20, wherein said power supply for said constant current source provides said gate of said constant current source transistor with a voltage satisfying a relation $V_{ds} > V_{gs} - V_{th}$, in which V_{ds} is a drain-source voltage, V_{gs} is a gate-source voltage and V_{th} is a threshold voltage.

Claim 22. (New) A photoelectric converting apparatus according to any one of claims 17, 18, 19 and 21, wherein said constant current source includes a constant current source transistor in which a gate and a source are mutually connected.

Claim 23. (New) A photoelectric converting apparatus according to anyone of claims 17, 18, 19, 21 and 22, wherein said constant current source includes a constant current source transistor in which a gate and a source are connected through a resistor.

Claim 24. (New) A photoelectric converting apparatus according to any one of claims 17, 18, 19 and 21, wherein at least one selected from a group consisting of said resetting transistor, said readout transistor, said selecting transistor and said constant current source is formed utilizing an amorphous silicon layer or a polysilicon layer.

Claim 25. (New) A photoelectric converting apparatus according to any one of claims 17, 18, 19 and 21, further comprising a phosphor layer which absorbs a radiation and emits a light of a wavelength region detectable by said photoelectric converting element.

Claim 26. (New) A photoelectric converting apparatus according to any one of claims 17, 18, 19 and 21, wherein said photoelectric converting element is constituted of a PIN photodiode or a MIS sensor.

Claim 27. (New) A photoelectric converting apparatus according to any one of claims 17, 18, 19 and 21, wherein said photoelectric converting element is a direct photoelectric converting element which directly converts a radiation into a charge.

Claim 28. (New) A photoelectric converting apparatus according to claim 27, wherein said direct photoelectric converting element is constituted of a material selected from a group consisting of amorphous selenium, gallium arsenide, gallium phosphide, lead iodide, mercury iodide, CdTe and CdZnTe.

Claim 29. (New) A photoelectric converting apparatus on an insulating supporting substrate comprising:

a two-dimensional array of a plurality of pixels each of which includes:
a photoelectric converting element;
a resetting transistor wherein one of a source and a drain is connected to said photoelectric converting element and the other of the source and the drain is connected to a resetting power source;

a readout transistor wherein a gate is connected to said photoelectric converting element and one of a source and a drain is connected to a readout power source;
and

a selecting transistor connected to the other of the source and the drain of said readout transistor;

a plurality of common signal lines connected to said plural pixels; and
a constant current source connected to said common signal lines,

wherein readout means further connected to said common signal line is further provided, and said constant current source is provided at a position on said common signal line spaced from said readout means rather than said plurality of pixels.

Claim 30. (New) An X-ray image pickup system comprising a photoelectric converting apparatus according to any one of claims 17 or 31, an X-ray generating apparatus and control means,

wherein said control means controls functions of said X-ray generating apparatus and said photoelectric converting apparatus thereby reading an X-ray image transmitted through an object.

Claim 31. (New) A photoelectric converting apparatus according to claim 29, wherein

said readout means includes an amplifier connected to said common signal line, and an analog multiplexer connected to said amplifier.